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Effect of Textual Inconsistency and Media of Presentation on Persuasiveness and Source Credibility.

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EFFECT OF TEXTUAL INCONSISTENCY AND MEDIA OF
PRESENTATION ON PERSUASIVENESS AND SOURCE
CREDIBILITY.

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EFFECT OF TEXTUAL INCONSISTENCY AND MEDIA OF
PRESENTATION ON PERSUASIVENESS AND SOURCE CREDIBILITY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
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Doctor of Philosophy

in

The Department of Speech

by

Arthur Thomas Spann
B.A., University of Alabama, 1968
M.A., University of Alabama, 1969
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ABSTRACT

This study had two primary purposes: (1) to determine what effect inconsistent evidence would have on receivers' attitudes toward message topic and message source, and (2) to determine if the media of transmission would emphasize or attenuate receivers' ability to perceive inconsistencies.

Subjects for the study were 384 students enrolled in the basic speech course (Speech 1) at Louisiana State University during the spring of 1973. The subjects were randomly assigned to 15 treatment groups and one control group. Treatment consisted of exposing the subjects to persuasive messages advocating the use of unleaded gasoline. The messages contained three types of inconsistency: authoritative, causal, and statistical. Messages containing these types of inconsistencies were communicated to the subjects via three different media: audio tape recordings, video tape recordings, and the printed page. The control group was exposed to no messages but was pre-tested and post-tested to insure against the influence of external variables.

Attitudes toward message topic and source were measured using the semantic differential technique. An analysis of variance procedure was followed using the data gathered, and all possible correlations were computed. Additional analyses of variance were calculated using the sex of the subject as the criterion for division of the data.

No significant differences were found which could be attributed to the effect of inconsistencies in the stimulus messages. No form of inconsistency was effective in reducing mean attitude scores toward message topic or source, nor was any form of inconsistency found to be more damaging than another. Perception of inconsistencies in the stimulus messages did not automatically result in a lower attitude score toward either topic or source. There was, however, a significant correlation between perception of inconsistencies and attitude scores toward the message topic. The correlation between perception of inconsistencies and attitude scores toward the message source was not significant.

No significant differences were found which could be attributed to the effect of the medium of transmission. The three media were found to be roughly the same with regard to their effect on attitude scores toward message topic and source. There was a tendency for attitude scores to be lower when inconsistencies were transmitted via audio tape, but the trend was not statistically significant.

Males were found to be somewhat more perceptive of the inconsistencies in stimulus messages than were females. Although this finding may support the conclusion that females are more easily persuaded than males, the fact that the males' perception of inconsistencies did not result in lower attitude scores toward topic and source precluded a definitive statement.

Chapter 1

INTRODUCTION

The use of evidence in persuasive communication has been a controversial subject among rhetorical philosophers and researchers for many years. Several schools of thought have developed regarding the uses and merit of evidence in persuasive messages and each doctrine has its share of supporters.

Many speech scholars seem to accept the traditional view that evidence, preferably evidence meeting certain specified qualifications, is necessary for a message to achieve the greatest possible persuasive effect. Accordingly, most speech texts have traditionally devoted considerable attention to the need for and proper use of evidence. Sarett and Foster (43), Weaver and Ness (50), Gray and Braden (26), Rogge and Ching (41), Bryant and Wallace (13), Jeffery and Peterson (29), and Oliver and Cortright (39) all give at least a few paragraphs and in some instances a chapter or more to the types, uses, and tests of evidence. There can be little doubt that a considerable number, probably a majority, of authorities in the field of speech communication consider the proper use of evidence as basic to effective persuasive speaking. The emphasis on evidence is even more overwhelming when debate texts such as those by Kruger (33) and

Ehninger and Brockriede (18) are examined.

During the past twenty years, however, an increasing number of writers have tempered traditional theory regarding the role of evidence in the persuasive process. Some writers such as Minnick (36) have urged communicators to use evidence because doing so aids the speaker in intelligently exploring his subject, not because evidence will necessarily add to the persuasiveness of a message. At least one authority has gone even further in rejecting traditional theory by not only failing to support the view of evidence as a positive factor in persuasion, but also by implying that evidence has little effect on receivers' beliefs (12).

This philosophical shift among some authorities is probably a reflection of the results of a number of experimental studies dealing with the effects of evidence in persuasive messages. Taken as a group, the studies dealing with evidence suggest that evidence may be somewhat less important as a factor in persuasion than traditional theory has maintained. Dresser (17), for example, found that "good" evidence was no more effective in changing audience attitudes than was "poor" evidence. In fact, the speeches with "good" evidence were actually the least effective in changing attitudes. Cathcart (14) also found that while subjects claimed to prefer speeches with documented and highly qualified evidence, the subjects did not make a behavioral distinction between speeches with such evidence and those lacking documentation and qualification. In summarizing a number of experimental studies dealing with the use and effects of evidence, Thompson concluded by noting that there is "almost no evidence against

using sound evidence and arguments but not much support for employing them " (48:53).

With so many differing views regarding evidence and its importance in persuasive messages, it is reasonable to conclude that the concept remains a viable topic for investigation. Although the bulk of experimental studies involving evidence has done little to support traditional theory, discarding thousands of years of thought and practice is not to be undertaken lightly or on the basis of a few isolated experimental studies. At the same time, however, a respect for tradition should not blind the discipline to the importance of contrary findings. If one fact is clear it is that much more research is needed before any conclusions can be drawn regarding whether or in what manner traditional rhetorical theory dealing with the concept of evidence should be modified.

Experimental studies gain their strength from the fact that a few well-defined variables are precisely manipulated within a controlled environment. Accordingly, the present study examined only two independent variables, type of evidence inconsistency and the media by which these inconsistencies and their related messages were transmitted to the receivers. It was hoped that an investigation of these two variables under controlled conditions would add new data which might be useful in establishing a more valid rhetorical philosophy with respect to the use of evidence in persuasive messages.

More specifically, the present study had two primary purposes:

(1) to determine what effects selected types of message inconsistency may have on a receiver's attitudes toward the topic of a message and its source, and

(2) to determine what effects the medium of presentation may have on a receiver's perception of and response to inconsistencies in messages being transmitted.

The study gains significance from the fact that it attempted to add to the sum of rhetorical knowledge by:

(1) testing the ability of traditional rhetorical theory to predict accurately changes in audience attitudes toward source and topic as a result of exposure to inconsistent messages,

(2) specifying which types of inconsistency are most influential in modifying audience attitudes toward source and topic, and

(3) determining whether certain media of presentation serve to strengthen or attenuate a receiver's ability to perceive and respond to inconsistencies in persuasive messages.

Inconsistency and Rhetorical Philosophy

Rhetorical philosophers have unanimously rejected the proposition that inconsistency and sound rhetorical practice are compatible. Aristotle (1) was perhaps the first to warn the speaker to avoid inconsistencies and later writers have echoed his advice. Shaw, for example, claims that "nothing is so damaging or unpardonable as the appearance of conflicting statements" (45:65). Kruger supports Shaw by asserting that "inconsistency is a most damaging error" (33:247).

Other writers have gone into greater detail and specified in what way inconsistencies are damaging. The belief that inconsistencies act to destroy a receiver's confidence in the validity of the message being communicated is well documented in the debate

literature. Summers, Whan, and Rousse state that "contradictions in the statements of your opponents will of course weaken the confidence of the audience in their arguments" (47:231). Baird states "If in one instance you appear to argue against yourself, how much faith can the auditor have in the remainder of your case?" (3:335-6). Likewise Fritz notes that "when attention is called to . . . inconsistencies, the entire argument is damaged" (23:279). Kruger goes so far as to assert that "the doubt created by one inconsistency may permeate the entire case" (33:247). It is obvious from these statements that the opinion is widely held that inconsistency is most damaging and that much of the damage results from the fact that the persuasiveness of the message itself is diminished.

Another popular belief is that inconsistency acts to reduce the credibility of the source whose message contains inconsistencies. McGinnis notes that a speaker will be discredited if "an inconsistency is observed in testimony that he is using to help prove his case" (35:132). Kruger agrees that "since consistency is one of the ideals of logic, inconsistency marks one as illogical" (33:247). Willhoft states that "Since, for the support of a case, all evidence must tend to produce proof in the same direction . . . the fact that there is a conflict casts doubt on the sincerity with which the case containing the inconsistency has been built" (53:205). These statements are typical of those throughout the literature which indicate that inconsistency is believed to reduce the credibility of the source.

It should be noted that several of the statements cited previously imply that inconsistencies in messages may not be immediately apparent to the average, or even the skilled, auditor. Through-

out the literature there is the repeated suggestion that inconsistencies will not be perceived by an audience, even an audience trained to evaluate logical argumentation, unless these inconsistencies are specifically noted by a third party. Baird, for example, warns "Woe to you in discussion if your inconsistencies are exposed!" (3:335). It must be noted in fairness that most of the writers who stress the dangers of inconsistencies are writing for a specialized group of communicators (debaters), and it is reasonable to assume that they would encourage their readers to emphasize any factor which might serve to reinforce their own position by weakening that of their opponent. The point remains, however, that most writers on the subject clearly imply that there is a strong possibility that an inconsistency in argumentation may go unnoticed even when the audience is "on guard" for such errors and is highly critical.

Inconsistency and Experimental Research

Although references to inconsistency and its consequences abound in the traditional debate literature, little experimental research has been conducted in the area of forensics. As Thompson noted in 1967, "Perhaps no potentially major area for quantitative study in the speech field has produced research so banal and provincial as has debate" (48:109).

The single area of experimental study which most closely relates to the concept of inconsistency is the body of research dealing with the "congruity principle." Congruity theories were first propounded during the early 1940's, although the roots of such

theories probably go back somewhat further. Numerous researchers in various disciplines have used some form of the congruity principle in their work and congruity theories have been referred to under many names. Osgood, Suci, and Tannenbaum (40) used the terms "congruity" and "incongruity" in their work. Heider (27) used the terms "balance" and "imbalance," while Festinger (21) talked about "consonance" and "dissonance." Rosenberg and Abelson (42) referred to "consistency" and "inconsistency," terminology which is of special significance to the present study. Bettinghaus (9), however, concluded after reviewing these studies that the principle involved was the same regardless of the terminology used.

All versions of the congruity theory are based on the principle that an individual is most contented and psychologically "inactive" when he experiences a condition of affective and cognitive homeostasis. As long as all relevant factors are in "balance" in the mind of the individual, there is no motivation for changing either attitudes or behavior. However, if some new information or experience enters the perceptual field of the individual which shifts these factors around in such a manner that they become "imbalanced," the individual will attempt to modify his attitudes or behavior so that a condition of congruity is restored.

Studies have demonstrated that there are a number of behaviors in almost any given situation which can be chosen by subjects to restore congruity once incongruity has been experienced. Adams (2), for example, found that subjects often attempted to resolve an incongruous state created by hearing a message opposing their personal attitude by seeking out additional information which supported their

original attitude. Gerard (25) found that subjects often resolved the incongruity they experienced by re-evaluating their own self-image. In a study by Steiner and Rogers (46), it was found that subjects exposed to dissonance-producing messages could actually choose from among four alternative dissonance-reducing behaviors: (1) the subjects could simply modify their perceptions of the message so that the conflicting points were not perceived as being conflicting, (2) the subjects could conform to the contrary attitudes advocated by the source, (3) the subjects could reject the source as being as competent as first thought, and (4) the subjects could devalue the importance of the topic about which conflicts occurred.

The studies cited dramatically demonstrate the wide choice of behaviors available to a subject upon being exposed to a dissonance-producing message. This point is highly significant to the present discussion and must be remembered whenever studies involving the congruity principle and rhetorical philosophy are evaluated.

Experimental research dealing with the congruity principle has concentrated largely on the effects of incongruity on two dependent variables: message source credibility and the subjects' attitude toward the message topic. Osgood, Suci, and Tannenbaum (40) were among the first to use the congruity principle to predict attitude changes toward the source and topic of a stimulus message. Since 1957, the success of Osgood, et al. in predicting attitude changes with the aid of the semantic differential technique and congruity theory has been duplicated often. An earlier study by Berlo and Gulley (6) and a subsequent review of their study (7) demonstrates the traditional use of the congruity principle in speech research.

Berlo and Gulley used the semantic differential technique to measure 174 subjects' initial attitudes toward a particular speaker and proposition. The congruity principle was then used to make predictions about how initial attitudes toward both speaker and proposition would be modified as a result of hearing the speaker make a speech in which he supported the proposition. A post-test identical to the pre-test was administered immediately following the stimulus message. Berlo and Gulley found that of the 174 predictions made using the congruity principle with respect to attitude change toward the speaker, 117 (67%) were verified. For the predictions regarding attitude change toward the proposition, 112 (64%) were verified. These results were significant at the .0001 level of confidence. Berlo and Gulley also had made predictions of exact post-test scores on the basis of pre-test data and the knowledge that the speaker would speak in favor of the proposition. The correlation between predicted post-test scores and observed post-test scores was .63 for scores on attitude toward the speaker and .71 for scores on attitude toward the proposition. On the basis of these results Berlo and Gulley concluded that "The 'congruity principle' of Osgood and Tannenbaum was shown to be a highly significant predictor of attitude change toward both the speaker and the proposition" (7:18).

It should be noted that only three factors were used in predicting changes in attitudes in this application of the congruity principle: (1) the initial attitude of the receiver toward the proposition, (2) the initial attitude of the receiver toward the source, and (3) the position expressed by the source toward the proposition, i.e., the "assertion constant." The relative effective-

ness with which the speaker expresses his position is not a factor considered when predictions are made using the congruity principle as formulated by Osgood, et al. and applied in the work of Berlo and Gulley. One question which stems from this analysis is the possibility that the speaker's effectiveness or ineffectiveness in presenting his position or that some factor in the message itself might sometimes be such that the other two factors (initial receiver attitude toward the proposition and the direction of speaker assertion) would become so overshadowed that the congruity principle would lose its predictive power. For example, the congruity principle predicts that attitudes toward both source and proposition will be more favorable at the conclusion of a speech favoring the proposition if initial attitudes toward both source and proposition were moderately favorable initially. What would be the result, however, if the speaker exhibited very poor delivery in expressing his support for the proposition?

Bettinghaus has reported a study in which he attempted to adapt the congruity principle to include such presentational factors. Specifically, Bettinghaus wanted to determine if there are variables underlying the receiver's attitudes toward source and proposition which may modify final attitudes in a manner different from that which would be predicted from an examination of the more obvious factors alone.

Bettinghaus reasoned as follows:

In oral communication, violations of expectation may occur with elements other than attitudes toward sources and concepts. For example, it seems reasonable to postulate that it is congruous for a favored speaker to have good delivery and for a disliked speaker to have poor delivery. Similarly, parts of the listener's attitudes toward a speech topic are determined by his own conception of how the topic is treated (8:133).

Assuming delivery to be an important part of the total impression made by a speaker, it should be possible to predict a subject's final attitude toward a source if the subject's attitude toward the source's delivery after hearing him and the subject's initial attitude toward the source are known. Stretching congruity theory to encompass these underlying factors of attitude toward source and proposition, the prediction would be that a subject's attitude toward the speaker should improve if the subject's attitude toward the speaker's delivery is better than his attitude toward the proposition. The converse prediction would apply if the subject's attitude toward the speaker's delivery is lower than his initial attitude toward the proposition.

To test his theory, Bettinghaus isolated four independent variables: (1) the source, (2) the source's delivery, (3) the treatment of the proposition, and (4) the "assertion constant" linking speaker and proposition. The dependent variables were (1) the receiver's attitude toward the source, (2) the receiver's attitude toward the proposition, (3) the receiver's attitude toward the source's delivery, and (4) the receiver's attitude toward the treatment of the proposition.

A pre-test was administered to 232 subjects to ascertain their initial attitudes toward six speakers after hearing the speakers introduce themselves. Eight propositions were also selected on the basis of current campus interest. Using data from the pre-test, four speakers were paired with four propositions for use in the experiment. Although Bettinghaus did not elaborate on the selection of the four speakers, it would seem logical to assume that he selected the two speakers rated highest and lowest in credibility for use in the

experiment.

Two weeks later the subjects heard each of the four speakers deliver a speech on the proposition assigned to him. Actually, two speeches were prepared for each proposition, one containing "weak" arguments and the other "strong" arguments. "Strong" and "weak" arguments were determined by a statistical analysis of ratings given each argument for each proposition by a control group. Bettinghaus also noted that the "weak" speeches lacked transitions and signposts. A similar procedure was used to determine which speakers exhibited "good" and "poor" delivery.

Each of the four speakers gave four speeches to four different treatment groups. There were, therefore, four replications of one basic model. Thus each group of subjects heard each of the four speakers with each of the possible combinations of delivery ("good" and "poor") and treatment ("strong" and "weak").

An analysis of the resulting data was made, and Bettinghaus reported the following conclusions:

(1) Subjects tended to shift attitudes toward both speaker and topic to more congruous positions. The use of the congruity principle of Osgood and Tannenbaum continued once again to predict attitude changes accurately.

(2) Subjects tended to balance their impressions of the speaker's delivery with their impression of the speaker in general. The speaker's delivery was found to influence the subject's attitude toward the speaker significantly. This result supports the generalization of the congruity principle to include underlying presentational factors.

(3) Subjects' attitude toward the treatment of the various topics was not significant in determining the subjects' attitude toward the topics themselves. The fact that a subject heard a "strong" or "weak" version of the message had little effect on the subjects' final attitude toward that topic. This result does not support the generalization of the congruity principle to include underlying presentational factors.

This study has been considered in somewhat greater detail because it attempted to broaden congruity theory to include underlying presentational factors such as delivery, strength of argumentation, and, by implication, the object of the present discussion, textual inconsistencies.

In determining the applicability of the congruity principle to the present study, several points should be noted. First, all predictions based on the congruity principle assume the subject does indeed experience a state of incongruity. Secondly, it must be remembered that other behaviors are available to subjects exposed to an incongruous message other than discrediting its source or devaluing its topic. Bettinghaus noted that the subjects in his study not only failed to react negatively to the "weak" treatments but did not actually perceive them as being weak. If the subjects failed to perceive the message as being "incongruous," the congruity theory obviously would not obtain. It would seem that the subjects in Bettinghaus' study chose to modify their perception of the message in such a manner that the conflicting elements were not seen as being conflicting. Bettinghaus' study showed mixed results depending on the independent variable being examined. A follow-up study and

critique by Bowers (10) also casts doubt on the advisability of generalizing congruity theory to include underlying presentational factors. Cronkhite (16) also warns that such practices may be unwarranted and that messages thought by the experimenter to create a state of incongruity in subjects actually may fail to do so.

In considering the literature dealing with the concept of inconsistency, the following points can be made in summation:

(1) Traditional rhetorical philosophy uniformly rejects inconsistency as being conducive to successful communication.

(2) Traditional rhetorical philosophy predicts that inconsistencies, if perceived, will result in the audience reducing its support for the message topic.

(3) Traditional rhetorical philosophy predicts that inconsistencies, if perceived, will result in the audience reducing its confidence in the message source.

(4) Traditional rhetorical philosophy implies that inconsistencies in arguments may pass undetected unless they are specifically noted by a third party.

(5) Traditional rhetorical philosophy implies that all forms of inconsistency are equally damaging.

(6) Quantitative research in communication theory which deals directly with the concept of textual inconsistency is lacking.

(7) Quantitative research dealing with the congruity principle indicates that congruity theory may be expanded to include some underlying presentational variables such as textual inconsistency. However, confounding conditions exist which preclude a definitive statement.

Experimental Research and the Medium of Presentation

Some of the earliest experiments reported in the research literature are comparative studies of the media. The more recent studies which examine media effects at all, however, usually do so in conjunction with other experimental variables. It is not surprising, therefore, that the research literature in this area is characterized by conflicting conclusions.

The effect of being able to both see and hear a speaker as opposed to only hearing him has been one of the principle topics of investigation. In 1930, Ewbank (19) reported finding no significant difference between factual recall scores of subjects who listened to class lectures over the radio and subjects who heard the lectures "live" in class. Three years later Ewbank (20) reported having compared "live" presentation with radio presentation again, this time testing for shifts in attitude rather than recall performance. Ewbank found no significant difference and was forced to conclude that his studies served to "cast doubt on the assumption that the speaker inevitably loses greatly because his listeners do not see him" (20:565). However, a contemporary study by Gaskill (24) reported that students at Iowa State College scored significantly higher on tests when they listened to lectures on radio than when they heard the lectures "live" in class.

A later (1946) study by Heron and Ziebarth (28) also measured factual recall for groups exposed to both in class lectures and lectures over the radio. Unlike the earlier studies, the Heron and Ziebarth study was rather sophisticated and merits a more detailed investigation. Subjects for the study were students enrolled in

General Psychology at the University of Minnesota. Half the class was exposed to lectures via radio from the start of the school term until midterm, while the other half of the class attended classes in the normal manner. A midterm examination composed of recall-type questions was administered and the two groups reversed media. A final examination composed of recall-type questions was given over material covered since midterm. There were no significant differences in test scores between the two groups at either midterm or the end of the course. However, the researchers found that students experienced a strong negative reaction to the radio treatment situation. Although 69 per cent stated that they found listening to lectures via radio more convenient, 58 per cent found it easier to concentrate in the classroom and 63 per cent preferred taking class in the lecture hall. These findings suggest that the results in this study might have been somewhat different had attitude rather than recall been the variable measured.

Another study comparing visual and non-visual media presentations was conducted by Kramar and Lewis (32). The Kramar-Lewis study exposed basic speech students at Florida State University to a twenty minute lecture on the topic "New Zealand." Half the subjects heard the lecture in a face-to-face situation while the other half listened over a speaker system. Measures of both immediate and retained factual recall were made and the results indicated that the oral-visual presentation was far superior to the oral medium alone. The study also compared the recall scores according to sex and found no significant difference. With the exception of the Gaskill (24) study, this is the only report cited in which a significant difference was

found between the effectiveness of oral-visual presentations and oral-only presentations. It should also be noted that these two studies reached opposite conclusions.

The writer is inclined to view both the Gaskill and Kramar-Lewis studies with suspicion and especially the Kramar-Lewis study. According to Kramar and Lewis, the two treatment groups in their experiment were physically present in the same room at the time of treatment with only a curtain dividing the groups. It seems reasonable to assume that even the dullest college student would realize that this procedure was not normal. It is possible that this realization colored the results of the study to a significant degree. As Webb, Campbell, Schwartz and Sechrest (51) have pointed out, reactive situations of much greater subtlety than that created in the Kramar-Lewis study must be avoided if meaningful results are to be expected.

Perhaps Thompson best summarized this issue when he concluded that "visible action does not harm communication and perhaps helps" (48:92). However, the topic deserves greater study since there are perhaps situations in which the additional channel of communication would be of crucial significance.

Another area of research interest has been the possible differences in effectiveness between the oral media and print. Most of the early studies found the oral media to be significantly superior to written presentation. In 1936, Wilke (52) reported he had found face-to-face oral presentation to be superior to the printed page in changing attitudes. Knower (30) also found oral presentation to be superior. Knower concluded that "on the whole . . . when all conditions are carefully controlled, the presentation of . . . arguments orally

seems to have added 15 to 25 per cent to their effectiveness in changing attitudes" (30:528). By 1945, however, Knower and his associates (31) were forced to temper earlier conclusions. Knower, et al. again found that "Students who listened to good or superior speaking . . . retained somewhat more material than when they read the same material silently" (31:88). However, silent reading was found to be significantly superior if the speaker was only moderately skilled. Thus the clear advantage of oral presentation reported in earlier studies was demonstrated to be less than universal. Writing in 1948, Nichols concluded that, based on earlier studies, oral and written presentations "are of approximately equal efficiency in learning" (38:155).

Nichols' pronouncement, of course, did not end investigation of possible differences in effects due to the message being communicated orally or by print. Using the printed page and audio tape recordings as his media of presentation, Beighley (5) found that silent reading was consistently and significantly (at the .001 level) more effective than the oral medium. To the writer's knowledge, Beighley's study was among the first to use tape recordings as the oral medium of presentation. Earlier studies had utilized either face-to-face presentation or the radio. Since radio presentation closely simulates audio tape presentation, the superiority of the written presentation found by Beighley is especially unique. Beighley himself noted that his results were unusual and conflicted with most earlier reports. The writer suggests the possibility that the difference lies in the fact that Beighley's subjects perceived they were not listening to a "live" speaker actually speaking at the time of the communication. Subjects in earlier studies,

even those in which radio was used, may have had the feeling that they were being spoken to by a live personality and that there was a kind of psychological connection between speaker and receiver. The subjects' knowledge in Beighley's study that the speaker was not really thinking about them at the time of the communication may have lessened the effectiveness of the oral presentation. This explanation is supported by the results of a study by Utterback and Harding (49). Utterback and Harding found that although all three media examined (face-to-face presentation, audio tape recordings, and silent reading) effected a significant shift of opinion in the direction advocated in the message, the "delivery of the speech effected more shift in the desired direction than did the tape recordings" (49:305). They also found that the delivery of the speech resulted in a greater shift in the desired direction than did silent reading. There was, however, no significant difference between the tape recordings and silent reading, although the data suggested that silent reading may have been the more effective.

Other attempts to compare the media include Frandsen's study (22) designed to investigate the effects of fear appeals and media of transmission on attitude change. Frandsen used audio tape recordings, "live" closed circuit television and live speaker presentations. Frandsen found that "None of the six possible combinations of media and threat level produced a significantly greater shift of opinion or a significantly greater amount of immediate recall than any other combination" (22:103). Likewise Sawyer (44) found no significant differences in attitude shifts in his study on attitude changes related

to individuals' estimates of majority feeling which could be attributed to effects of the media. Sawyer used the printed page, face-to-face presentation and "live" closed circuit television as the media in his study.

A number of experimental studies have been conducted to determine if television is as effective a medium of information transfer as traditional class lectures. A report by the National Association of Educational Broadcasters (37) concluded that instruction by television was found to be roughly comparable in effectiveness with other, more conventional methods. The writer has found only one study in which televised instruction was significantly more effective than normal classroom lectures (15). A number of other studies support the NAEB report's conclusion.

Although numerous studies have reported that the medium of transmission has an insignificant influence on the ability of a given message to create changes in attitude or teach new information, other studies have found significant differences attributable to the medium. The subject, therefore, remains a valid area for investigation. It is possible that no absolute principles apply with regard to media effects and that results will depend on the nature of the variables being measured as well as on the context in which the message is communicated. This view was expressed by Bettinghaus (8) in a study previously cited. Bettinghaus noted that previous studies dealing with congruity theories had reported greater shifts of attitude toward the topic than toward the source. Bettinghaus suggested that this trend would not hold true to as great a degree if the medium of

presentation were oral rather than written as had been the case in many studies. Bettinghaus blamed the disparity between attitude changes with respect to source and topic on the fact that print created a situation in which the message itself provided the greatest portion of the available stimulation. This disparity might disappear or even be reversed if the medium of presentation were a live speaker. Bettinghaus tested this hypothesis and found that the shift toward congruity in an oral communication situation seemed to be determined more by the listener's attitude toward the speaker than by the listener's attitude toward the speech topic. This result is contrary to the results in congruity studies using written media of transmission and indicates that the medium of presentation may be one of the underlying factors which may account for observed shifts in attitudes when the congruity principle is used to predict outcomes. Bowers (10) also concluded, based on his own experimentation as well as that of Bettinghaus, that the communication channel may be one of the factors influencing the applicability of the congruity principle to underlying presentational factors.

In considering the literature dealing with media of presentation, the following points can be made in summation:

- (1) Although the medium of presentation does not appear to have a significant influence on the effectiveness of messages in general, differences in results attributable to the medium of presentation have been found in certain situations.

- (2) Some studies have indicated that the medium of presentation may have a confounding effect when congruity theory is used to predict

attitude change toward message source and topic. This effect seems most significant when underlying factors in the manner of advocacy are involved.

Research Hypotheses

The preceding review of the philosophical and experimental literature dealing with inconsistency and the effects of different media led to the formulation of several research hypotheses which were tested in the present study. A number of additional research hypotheses were also formulated in order to examine certain questions suggested by the literature but not arising directly from the preceding review.

The following research hypotheses with respect to the variable "inconsistency" were tested:

- (a) Authoritative inconsistency will produce a significant reduction in mean attitude scores toward the message topic.
- (b) Authoritative inconsistency will produce a significant reduction in mean attitude scores toward the message source.
- (c) Statistical inconsistency will produce a significant reduction in mean attitude scores toward the message topic.
- (d) Statistical inconsistency will produce a significant reduction in mean attitude scores toward the message source.

- (e) Causal inconsistency will produce a significant reduction in mean attitude scores toward the message topic.
- (f) Causal inconsistency will produce a significant reduction in mean attitude scores toward the message source.
- (g) Statistical inconsistency will produce a significantly greater attitude change toward the message topic than will authoritative inconsistency.
- (h) Statistical inconsistency will produce a significantly greater attitude change toward the message source than will authoritative inconsistency.
- (i) Causal inconsistency will produce a significantly greater attitude change toward the message topic than will statistical inconsistency.
- (j) Causal inconsistency will produce a significantly greater attitude change toward the message source than will statistical inconsistency.
- (k) There will be a significant correlation between perception of inconsistency scores and scores of attitude toward the message topic.
- (l) There will be a significant correlation between perception of inconsistency scores and scores of attitude toward the message source.

The following research hypotheses with respect to the variable "medium of presentation" were tested:

- (m) The printed page will produce significantly greater changes in attitude toward the message topic than will audio tape recordings.

- (n) The printed page will produce significantly greater changes in attitude toward the message source than will audio tape recordings.
- (o) Audio tape recordings will produce significantly greater changes in attitude toward the message topic than will video tape recordings.
- (p) Audio tape recordings will produce significantly greater changes in attitude toward the message source than will video tape recordings.

Chapter 2

METHODOLOGY AND EXPERIMENTAL DESIGN

Subjects

The writer received permission to use students in the basic speech course at Louisiana State University (Speech 1) as subjects in this study from Dr. Owen Peterson, faculty director of the course, early in the spring semester of 1973. Dr. Peterson stipulated that permission to utilize individual sections of Speech 1 must be secured from the instructors of the various sections and that, further, it must be made clear to the students that their participation was voluntary.

The writer attended the March meeting of the Speech 1 teaching staff at which the purpose and design of the study was briefly explained and each instructor was requested to indicate his or her willingness to aid in the study. A form for this purpose was circulated among the instructors and a copy of the form may be found in Appendix A. The instructors were also requested, both orally and in print, to keep all matters relating to the study confidential regardless of their participation.

Only one instructor teaching one section of Speech 1 was unable to contribute subjects. Subjects used in this study, therefore,

were drawn from students enrolled in thirty-three of the thirty-four sections of Speech 1 taught during the spring semester, 1973, at Louisiana State University.

The subjects were predominantly second-semester freshmen with a somewhat smaller number of sophomores, juniors, and seniors. Individual subject participation was strictly voluntary.

Division of Subjects

Subjects were randomly assigned to fifteen treatment groups and one control group. The original design called for each of the treatment groups and the control group to contain the students enrolled in two sections of Speech 1. A review of previous studies conducted in the Department of Speech utilizing Speech 1 students indicated that absences and the failure of some students to participate sometimes made it necessary to repeat treatments to obtain sufficient numbers of subjects for making statistical inferences. During the course of the experiment, however, the writer discovered that the instructor of the classes being used as the control group had inadvertently exposed the subjects in these classes to several forms of the stimulus message. To retain the validity of the control group design, it became necessary to use one of the Speech 1 sections assigned to a treatment condition as a control group for purposes of post-testing at the conclusion of the treatment phase of the study. This modified procedure resulted in three sections of Speech 1 serving as the control group and one treatment group containing only one class of subjects. Care was taken, however, to insure that classes with the largest enrollment were used in conditions where only one

section of Speech 1 was available. Although unplanned, this slight modification in procedure may have strengthened the design by eliminating the repetitive testing of control group subjects.

Nature of Treatments by Groups

Subjects were treated as indicated in the matrix diagram in Figure 1. An additional group was not exposed to any form of the stimulus message and served as a control. The control group consisted of three sections of Speech 1, two of which were tested at the start of the treatment phase of the study and the third at its conclusion.

		MEDIUM OF PRESENTATION		
		Print	Audio Tape	Video Tape
I N C O N S I S T E N C Y	Single exposure to Base Message	"	"	"
	Double exposure to Base Message	"	"	"
	Authoritative Inconsistency	"	"	"
	Statistical Inconsistency	"	"	"
	Causal Inconsistency	"	"	"

Figure 1
3 X 5 Factorial Design

Testing Instruments

The pre-test and post-test instrument in this study was identical and consisted of an eight page booklet containing a cover

letter to the subjects, instructions for taking the test, and six semantic differential instruments dealing with items mentioned in the four forms of the stimulus message. A copy of the booklet may be found in Appendix B.

The first page of the test instrument was a cover letter which informed the subjects that they were being requested to participate in a research project sponsored by the Department of Speech. Each subject was informed that his participation was entirely voluntary, that he need not identify himself, and that his participation or lack of participation would have no effect on his success in the course. The letter went on to point out that the student's sex, class rank, and academic major was information vital to proper classification of the data and subjects were asked to provide this information as indicated. The letter concluded by thanking the subjects for their cooperation and requesting the subjects to avoid looking further into the booklet until instructed.

The second page of the booklet contained instructions for completion of the six semantic differential instruments. These instructions were taken from Osgood, Suci, and Tannenbaum (40:82-84). A brief introduction composed by the writer preceded the instructions.

The remaining six pages of the booklet consisted of six semantic differential instruments. All six semantic differentials used topics mentioned in the stimulus messages and each instrument was on a separate page as suggested by Osgood, et al. (40:81). The six topics used were: U. S. ENVIRONMENTAL PROTECTION AGENCY; USE OF UNLEADED GASOLINE; FORD MOTOR COMPANY; HIGH COMPRESSION RATIOS; SURGEON GENERAL OF THE UNITED STATES; USE OF CATALYTIC CONVERTERS.

Only the first two semantic differential instruments dealing with the "U. S. Environmental Protection Agency" and "Use of Unleaded Gasoline" were used to provide data for analysis. The remaining four instruments were used to mask the purpose of the treatment and testing procedure and to aid the investigator in identifying set responses. The two semantic differential instruments which provided data for analysis in this study were purposely placed first in the booklet following the instruction page. It was thought that the subjects might become less conscientious in marking the scales as they progressed through the booklet due to the ambiguity of the task. Although a formal analysis was not made to determine the validity of this assumption, an informal investigation of the subjects' responses indicated an increase in set responses and illogical markings among the semantic differential instruments at the back of the booklet.

The scales of the semantic differential instruments used to measure attitude toward the topic and toward the source attributed to the stimulus messages were selected by the writer. The scales used for all six semantic differential instruments are shown in Tables 1, 2 and 3 on the following pages and the primary factor loading for each scale is listed.

All the scales and corresponding factor loadings used for the semantic differential instrument designed for measuring attitude toward the message topic (Use of Unleaded Gasoline) were taken from Osgood, et al. (40). The semantic differential instrument scales used to determine attitude toward the source attributed to the stimulus message (U. S. Environmental Protection Agency) were selected from those suggested by Bowers and Phillips (11) and Baudin and Davis (4) for the

Table 1
Scales for the Measurement of
Source Credibility

Scale	"Character" * Factor Loading
Admirable-Contemptible	.777
Honest-Dishonest	.747
Dependable-Undependable	.58
Trustworthy-Untrustworthy	.70
Valuable-Worthless	.648

Table 2
Scales for the Measurement of
Source Credibility

Scale	"Authoritativeness"** Factor Loading
Experienced-Inexperienced	.806
Expert-Ignorant	.797
Competent-Incompetent	.71

*Taken from Bowers and Phillips (11) and Baudin and Davis (4)

Table 3
Scales for the Measurement of
Attitude Toward Topic

Scale	Evaluative Factor Loading*
Good-Bad	1.00
Willing-Unwilling	.49
Pure-Impure	.45
Beautiful-Ugly	.52
Important-Unimportant	.38
Timely-Untimely	.37

*Taken from Osgood, Suci, and Tannenbaum (40)

measurement of ethos. It should be noted that several of the scales selected were also suggested by McCroskey (27). The first five scales listed (admirable-contemptible; honest-dishonest; dependable-undependable; trustworthy-untrustworthy; valuable-worthless) were used to measure the "character" of the source. The next three scales (experienced-inexperienced; expert-ignorant; competent-incompetent) were used to measure the "authoritativeness" of the source. An additional scale (consistent-inconsistent) was included to determine the degree to which subjects perceived inconsistencies in the stimulus messages.

Content and Production of Stimulus Messages

Four forms of the same basic stimulus message were composed by the writer for use in the present study. The writer purposely fabricated all the information in the stimulus messages to avoid the possibility of one message form being more effective than another because it was more in keeping with the prior knowledge of the subjects. The fact that all forms of the stimulus message were identical except for changes in the independent variable of consistency also negated the importance of utilizing verifiable information in the base message. A brief discussion of each of the four forms of the stimulus message is provided below.

Form 1--This form of the stimulus message was a communication of approximately 575 words which advocated the use of unleaded gasoline. The message contained two main arguments supported by both statistical and authoritative forms of evidence. Form 1 of the stimulus message

may be found in Appendix C. This form of the message served as the initial stimulus in each treatment condition and constituted the point of reference about which all other forms of the message varied.

Form 2--This form of the stimulus message was identical to Form 1 with the exception that it exhibited "statistical inconsistency." For purposes of this study, "statistical inconsistency" was said to exist between Form 1 and Form 2 when a number used to quantify a concept presented in Form 1 of the stimulus message differed from the number used to quantify that same concept in Form 2 of the stimulus message. Since the magnitude of the variation could have been an additional confounding factor, differences between statistics used in Form 2 of the stimulus message did not exceed 30 per cent of the original figure used in Form 1. Form 2 may be found in Appendix D.

Form 3--This form of the stimulus message was identical to Form 1 with the exception that it exhibited "authoritative inconsistency." "Authoritative inconsistency" was said to exist between Form 1 and Form 3 when (1) an item of testimony presented in Form 1 was attributed to a different source in Form 3 and/or (2) when the qualification statement provided a particular source in Form 1 differed from the qualification statement provided the same source in Form 3 of the stimulus message. Form 3 may be found in Appendix E.

Form 4--This form of the stimulus message was identical to Form 1 with the exception that it exhibited "causal inconsistency." "Causal inconsistency" was said to exist between Form 1 and Form 4 of the stimulus message when the cause and effect relationship associated with a particular argument in Form 1 differed from the cause and effect relationship associated with that same argument

in Form 4. Form 4 may be found in Appendix F.

Two additional points should be made with respect to the content of the four stimulus messages. First, the number of inconsistencies were approximately equal in all versions of the message although the forms differed with respect to the type of inconsistencies. Secondly, the source attributed to all forms of the stimulus message was the United States Environmental Protection Agency.

Each form of the stimulus message was prepared for presentation to the subjects via three media of presentation: print, video tape recordings, and audio tape recordings. Several considerations led to the selection of these three media. Primary among these considerations was the degree of control these media provided over such factors as variable speaker delivery. The use of these three media insured a level of uniformity among treatments which would have been impossible with "live" presentation by a speaker. Another consideration was the desire to simulate the mass media of communication. Although the media used in the present study did not duplicate television, radio, and the newspaper ideally, the media used did reflect the mass media to a degree and serve as the basis for limited generalization regarding possible differences among the mass media. It was also thought that the use of the three media specified would reduce the obtrusiveness of the study. Since the stimulus messages were in the general form of typical public service announcements and since the messages were attributed to an organization rather than an individual, it seemed probable that the subjects would accept the messages as being more reflective of genuine communications if presented via media similar to those through which they were accustomed to receiving such messages.

A discussion of the techniques used in preparation of the various message forms for transmission via the three media is presented below.

Video Tape Recordings. Each of the four forms of the stimulus message was recorded on video tape using the facilities and technical staff of the Closed Circuit Television laboratory at Louisiana State University. All forms of the message were video taped using a single camera locked on a bust shot of an announcer seated on a stool placed approximately three feet in front of a neutral-colored studio flat. High intensity lights were directed on the flat directly behind the announcer so that the background seen on camera was entirely "washed out" resulting in a completely ambiguous background. The lighting used for the announcer himself was that used for normal production work at the Closed Circuit studio and no attempt was made to dramatize the visual or audio portions of the communication. The announcer used in the production of the video tapes was Cris Moser, a graduate student in speech. Mr. Moser was selected for the quality of his voice, his appearance on camera, and his experience in commercial broadcasting. Mr. Moser was dressed conservatively in coat and tie. At the conclusion of each form of the stimulus message announced by Mr. Moser, a dissolve was made to a card printed with the words "U. S. Environmental Protection Agency." Simultaneous with the dissolve to the visual a pre-recorded audio message was inserted which informed the subjects that the preceding message had been presented as a public service by the U. S. Environmental Protection Agency. This pre-recorded announcement was produced by Mr. Ronald Garay, broadcasting instructor in the Department of Speech.

Since all treatments were to involve at least one exposure of the subjects to Form 1 of the message, Form 1 was recorded on a reel of tape separate from the reel on which Forms 2, 3, and 4 were recorded. This technique was of considerable advantage during the treatment phase of the study because it allowed the studio technicians to cue Form 1 on one VTR (Video Tape Recorder) and any one of the three other forms on a second VTR before a treatment session began. Having two treatment messages cued on separate recorders allowed for easy juxtapositioning of the desired message forms without long delays while tapes were being rewound or threaded.

To insure the greatest uniformity possible, all video tape recording was completed during a single recording session on March 27, 1973.

Audio Tape Recordings. Each of the four forms of the stimulus message was recorded on audio tape by re-recording the audio portion of the video tape recordings on audio tape. Initial re-recording was accomplished using the facilities of the Closed Circuit Television laboratory. It was discovered, however, that the quality of the resulting audio recording was poor. The writer was informed by members of the CCTV staff that the poor quality was due to a mal-functioning audio control board in the CCTV control room. To circumvent this problem, a portable audio tape recorder was connected directly to the audio output circuit of the Ampax 660 video tape recorder which had recorded the original video tapes. The quality of the audio recording using this technique was considered acceptable. To reduce the time required to play the desired forms of the stimulus message

to various treatment groups, the writer prepared all possible combinations of the four forms on separate reels of standard audio tape. This procedure eliminated the problem of changing reels of tape during any given treatment. Standard leader tape was used to provide visual cues so the recorded parts of each tape could be quickly and quietly cued during the treatment phase of the study.

Print. Each of the four forms of the stimulus message was transcribed from the audio tapes and reproduced on legal length mimeograph paper. The content of the printed messages was identical to the messages recorded on video and audio tape with one exception. Since the statement attributing the message to the U. S. Environmental Protection Agency in both the audio and video tape versions was inappropriate for the medium of print, the phrase "Reprinted by permission of the U. S. Environmental Protection Agency, Washington, D. C." was included at the end of each message.

Testing and Treatment Procedure

The testing and/or treatment of all subjects was conducted during a two week period beginning March 28 and ending April 10, 1973. All testing and treatment procedures were scheduled during the regular class meeting period of the thirty-three classes involved in the study. All subjects in the control group and all subjects in treatment groups involving the media of print and audio tape recordings were treated and tested in the classrooms in which the classes were normally conducted. All subjects exposed to stimulus messages via video tape were treated in the studio of the Closed Circuit Television lab-

oratory in Himes Hall. Student desks, a lectern, and a blackboard were provided in the television studio so the class instructors could conduct class following the students' participation in the experiment.

All participating class instructors were asked to announce to their students that a researcher would be entering the class but to refrain from making any further comments regarding the nature of the study, its sponsor, or the identity of the investigator. The instructors were asked to make this announcement during the class meeting just prior to the meeting at which the writer was scheduled to appear. Classes assigned to meet in Himes Hall were provided written instructions regarding the location of the Closed Circuit Television laboratory, and the writer placed a reminder to all classes meeting in Himes Hall on the blackboard of the regular classroom at the appropriate times. All testing and treatments were conducted at the start of the class periods, and the instructors were asked to leave the room during treatment and testing.

The testing procedure consisted of distributing the test booklets to all subjects followed by approximately one minute of silence during which the subjects were allowed to read the cover letter. Simultaneously with the distribution of the booklets the subjects were asked not to look into the booklet until instructed. One or two subjects in practically every section did glance over to the next page, but it is doubtful that this had any influence on their manner of responding. The writer thought it better to ignore these minor violations of the instructions than to direct the attention of all the subjects to one or two offenders.

Following a moment of silent reading, the investigator summarized the cover letter by emphasizing that participation was voluntary, that the research was to be used exclusively for academic purposes, that participation was anonymous, and that the study was being conducted with the approval of the Department and their instructor. The subjects were told at this time that the purpose of the study was to determine the verbal comprehension ability of the average student attending the University. This point was reinforced by the phrase "VERBAL COMPREHENSION RESEARCH PROJECT" followed by "Department of Speech" prominently displayed at the top of the cover letter. A second reference to "verbal comprehension" was included in the instructions on the second page of the booklet and further served to mask the true purpose of the experiment. The subjects were also asked to provide the information regarding sex, class rank, and academic major in the specified manner if they were going to participate in the study. Students not participating were asked to turn in the test booklet. Subjects in the control group were then asked to turn to the second page of the booklet and testing followed.

All treatment groups were told prior to actual treatment that the message, or messages, they were about to receive were secured through the U. S. Environmental Protection Agency and were chosen for use in the "verbal comprehension ability" project because the message, or messages, contained the necessary levels of verbal difficulty needed for a test of verbal ability. The subjects were urged to examine the messages carefully, but no other suggestions were given. Exposure to the messages followed these introductory remarks. In the

case of messages presented in print, the subjects were first given instructions not to look at the printed side of the page until all members of the group had received a copy. The subjects were told that the test was to be timed, that they would have four minutes in which to read each message, and that they were to start and stop at the investigator's signal. The writer had found prior to the beginning of treatments that most people could read any form of the stimulus message in a little less than three minutes. The video and audio recordings of the message, however, averaged approximately four minutes in duration and it was decided that greater uniformity would result if the groups exposed to messages via print were given an equal length of time in which to examine the messages.

Subjects were told to turn to the instruction page (page 2) of the test booklet immediately following the treatment. The subjects were asked to read the instructions silently as they were read aloud by the investigator. Subjects were then requested to complete the six semantic differential instruments at their own pace. The booklets were collected as individual subjects indicated completion of the testing. When all booklets had been returned the subjects were thanked again for their participation and the teacher returned or the class was dismissed, depending on the desire of the instructor.

Statistical Treatment of the Data

The data collected was processed using a 3 X 5 factorial analysis of variance plus a one-way analysis of variance utilizing one control group. Additional analyses of variance were made separating

scores according to class rank and sex. In addition, all possible correlations among the dependant variables were calculated across treatments. Follow-up tests of significance among means of treatment groups were made using a modified t-test incorporating the mean square of the error term provided by the appropriate analysis of variance procedure. A probability value of $p < .05$ was selected as the criterion for rejection of all null hypotheses involving differences between group means.

Chapter 3

RESULTS AND DISCUSSION

A total of 496 subjects participated in the present study. In scoring the test booklets, however, the writer became increasingly aware of the tendency of some subjects to mark the scales in a haphazard or illogical manner. Some subjects, for example, marked only the blanks at the extreme left or right of the semantic differential, next to the polar adjectives. Such marking indicated that the subjects considered the source of the stimulus messages to be both highly admirable and trustworthy yet equally dishonest and undependable. Other subjects marked the extreme positions but alternated from pole to pole as they moved from scale to scale. Still other subjects simply marked every scale for each of the semantic differentials in the "neutral" position.

Although it is possible that such responses were true reflections of the subjects' attitudes, the observation during treatment of some subjects' inattention led the writer to doubt the validity of some responses. Assuming that some of the responses were probably bogus and realizing such responses could confound the results, a standardized procedure was developed which systematically discarded test booklets displaying certain response patterns.

Two criteria were established for rejecting test booklets: "set responses" and "illogical responses." A "set response" was said to exist when a subject marked each scale of a semantic differential instrument in the same position, regardless of the position. This resulted in the rejection of all booklets in which subjects marked only the "neutral" position, only the "slightly favorable" position, only the "moderately unfavorable" position, or any single position on the continuum to the exclusion of any other possible position. This criterion was applied to each of the six semantic differential instruments in the test booklet, but response patterns on the first two dealing with the USEPA and use of unleaded gasoline were used in determining whether the booklet was rejected. The second criterion, "illogical responses," was more difficult to define. It is acknowledged that discarding certain responses on the basis of an arbitrary definition of "illogical" involves a certain degree of risk, since attitudes are not confined to the realm of logic. The range of responses which were considered "logical," therefore, was rather broad. A response was deemed "illogical" only if the markings on two or more scales with high factor loadings on the same dimension differed by more than four positions. The rather remarkable markings of the scales below, for example, would have been considered "logical" under the definition:

Admirable____:____:____:____:____: X :____ Contemptible

Dishonest____:____:____:____: X :____:____ Honest

The responses to the following scales, however, would have resulted in the booklet being rejected as "illogical."

Admirable____:____:____:____:____: X :____ Contemptible

Dishonest____:____:____:____:____:____: X Honest

The bulk of the booklets rejected were discarded on the basis of "set responses." Very few were eliminated due to "illogical responses." It should be noted, however, that most of the set response patterns were themselves "illogical."

To insure that the writer did not introduce bias into the application of these criteria, all test booklets were completely randomized and scored without prior knowledge of which treatment or control group was involved. A total of 112 test booklets were rejected due to set and illogical responses. The statistical analysis which is reported and discussed in the following pages is, therefore, based on an N of 384. Due to the large number of subjects involved, rejection of over one hundred test booklets did not reduce the number of subjects in any given group to the point where statistical inferences could not be made.

Results of Analysis of Variance by Dependent Variables

Scores on four dependent variables were obtained from each of the 384 subjects. These four variables were character of the source, authoritativeness of the source, inconsistency of the source, and attitude toward the message topic. Tables 4, 5, 6 and 7 summarize the analysis of variance for each of these four variables.

As indicated in the tables, only the dependent variables of "Topic" and "Inconsistency" resulted in F -ratios which were significant at the $p < .05$ level set for rejection of null hypotheses.

Table 4
Analysis of Variance for
Dependent Variable
Character

N=384

Source	df	SS	F	F Prob.
Media	4	132.18	1.58	.1774
Inconsistency	4	110.97	1.33	.2581
Media/Incon.	8	152.14	.91	.5088

Table 5
Analysis of Variance for
Dependent Variable
Authoritativeness

N=384

Source	df	SS	F	F Prob.
Media	4	39.65	.93	.5531
Inconsistency	4	54.96	1.29	.2718
Media/Incon.	8	97.07	1.14	.3345

Table 6
Analysis of Variance for
Dependent Variable
Inconsistency

N=384

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	41.42	3.98	.0039
Inconsistency	4	29.68	2.85	.0235
Media/Incon.	8	18.39	.88	.5316

Table 7
Analysis of Variance for
Dependent Variable
Topic

N=384

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	163.11	1.83	.1219
Inconsistency	4	214.44	2.40	.0488
Media/Incon.	8	275.33	1.54	.1408

Results in Relation to Research Hypotheses

Although scores for only two of the dependent variables resulted in significant F-ratios, a number of independent comparisons were made among the various treatment group means in order to test certain of the research hypotheses formulated prior to the start of the study. The formula used for computing the significance of the difference between group means was suggested for this purpose by Dr. Barton Farthing of the Department of Experimental Statistics. The formula incorporates the error mean square of the overall analysis of variance for the particular variable involved and, therefore, was considered to be a rigorous test of differences.

The research hypotheses will be examined in the order in which they were presented at the conclusion of Chapter 1. The first hypotheses deal with the independent variable "Inconsistency."

- (a) The null hypothesis was not rejected. Authoritative inconsistency did not produce a significant reduction in mean attitude scores toward the topic. Subjects exposed to authoritative inconsistency did tend to rate the topic lower than did subjects exposed to consistent messages, but the difference was not statistically significant.
- (b) The null hypothesis was not rejected. Authoritative inconsistency did not produce a significant reduction in mean attitude toward the source of the message. Subject ratings on the dependent variable of "inconsistency" suggest that authoritative inconsistency was probably the

least noticed form of inconsistency used in the present study. There was no condition in which authoritative inconsistency resulted in a significantly lower mean score on any of the four dependent measures.

- (c) The null hypothesis was not rejected. Statistical inconsistency did not produce a significant reduction in mean attitude scores toward the message topic.
- (d) The null hypothesis was partially rejected. Statistical inconsistency produced a significant reduction in mean attitude scores toward the message source under certain conditions. It was found that subjects exposed via video tape to statistical inconsistencies reported significantly ($p < .01$) lower scores on the character variable than did subjects exposed to consistent messages via the same medium. These same subjects also reported a significantly ($p < .05$) lower mean score on the dependent variable source authoritativeness. Statistical inconsistencies did not significantly reduce subjects' attitude toward the message source when print and audio tape were used as the media of transmission. For reasons unknown to the author, the subjects exposed to statistical inconsistencies via video tape did not rate the source lower on the "inconsistency" variable, although the source's ratings on both character and authoritativeness were significantly reduced. This finding casts doubt on the utility of the "inconsistency" variable as an indicator of the subject's perception of inconsistencies in stimulus

messages.

- (e) The null hypothesis was partially rejected. Causal inconsistency produced a significant reduction in mean attitude scores toward the message topic under certain conditions. Audio tape presentations of causal inconsistencies resulted in a significant ($p < .05$) reduction in scores for attitude toward the message topic when compared to scores reported by subjects exposed to a consistent message via the same medium. This was true when the comparison was made with subjects exposed to the consistent message once as well as those exposed to the consistent message twice. A similar reduction in attitude scores toward the message topic as a result of causal inconsistencies did not obtain when the inconsistencies were communicated via either print or video tape. It was also found that the subjects exposed to causal inconsistencies via audio tape scored the source significantly ($p < .01$) lower on the "inconsistency" variable than did subjects exposed to the consistent message once. "Inconsistency" scores were also significantly ($p < .05$) lower when compared to subjects exposed to the consistent message twice. This finding supports the use of the "inconsistency" variable as an index of the subjects' perception of inconsistencies in the stimulus messages.
- (f) The null hypothesis was partially rejected. Causal inconsistency produced a significant reduction in mean attitude scores toward the message source under certain conditions.

Scores on the character variable were significantly ($p < .05$) lower for subjects exposed to causal inconsistencies than were the scores of subjects exposed once to the consistent message via the same media. However, the difference between subjects exposed to causal inconsistencies and those exposed to the consistent message twice was not significant. There is, therefore, some question as to whether the significant difference was due to the effect of causal inconsistency or some unidentified and uncontrolled factor. Subject scores on the variable of authoritativeness did not change significantly for the group exposed to causal inconsistencies nor were there significant differences attributable to causal inconsistencies among groups exposed via media other than audio tape.

- (g) The null hypothesis was not rejected. Statistical inconsistency did not produce a significantly greater attitude change toward the message topic than did authoritative inconsistency.
- (h) The null hypothesis was partially rejected. Statistical inconsistency produced a significantly ($p < .05$) greater reduction in attitude scores toward the message source than did authoritative inconsistency under certain conditions. The mean score on the variable of source character was significantly lower for subjects exposed to statistical inconsistency via print than was the mean score of subjects exposed to authoritative inconsistencies via

the same medium. There was no similar difference in scores on the variable of authoritativeness for the two treatment groups. "Inconsistency" scores were also significantly ($p < .01$) lower for the group exposed to statistical inconsistencies via print than were the scores of subjects exposed to authoritative inconsistencies via the same medium. This finding supports the use of the "inconsistency" variable as an index of the subjects' perception of inconsistencies.

- (i) The null hypothesis was partially rejected. Causal inconsistency produced a significantly ($p < .01$) greater attitude change toward the message topic than did statistical inconsistency under certain conditions. It was found that the mean attitude toward the message topic for the group exposed to causal inconsistencies via audio tape was significantly lower than that of the group exposed to statistical inconsistencies. This was not true for either print or video tape presentation. There was no significant difference between the two groups with respect to "inconsistency" scores. Indeed, the scores for the two groups on the "inconsistency" scale were practically identical, 4.1538 and 4.1429.
- (j) The null hypothesis was not rejected. Causal inconsistency did not produce a significantly greater change in attitude toward the message source than did statistical inconsistency.

Both hypotheses (k) and (l) involved correlations among the various dependent variables. Table 8 shows all possible correlations among the four dependent variables and their associated probability levels.

Table 8
Correlations and Associated
Probabilities

N=384

Variables	Correlation	Probability
Character/Authoritativeness	.65	.0001
Character/Inconsistency	.52	.0001
Character/Topic	.14	.0075
Authoritativeness/Inconsistency	.50	.0001
Authoritativeness/Topic	.23	.0001
Inconsistency/Topic	.16	.0025

- (k) The null hypothesis was not rejected. Due to the large number of subjects involved, practically any correlation would have been significant. A correlation of .50 or greater was, therefore, considered necessary for rejection of the null hypothesis. Although the correlation between scores on attitude toward the topic and scores on the variable of inconsistency was statistically significant, the correlation was so low ($r = .16$) that the null hypothesis was allowed to stand.
- (l) The null hypothesis was rejected. Since the coefficient of correlation between inconsistency scores and scores for both character and authoritativeness was either .50 or higher, the research hypothesis was accepted. Scores on the dependent variable "inconsistency" may be considered significantly correlated with attitudes toward the source of the message. It should be pointed out that high scores on the inconsistency variable indicated that the subjects perceived the message as being very consistent. Low scores reflected perception of inconsistencies.

Research hypotheses (m) through (p) were formulated with respect to the independent variable "medium of presentation."

- (m) The null hypothesis was not rejected. The printed page did not produce significantly greater reductions in mean attitude scores toward the message topic than did audio tape recordings. None of the three forms of inconsistency examined in the present study caused a significant change in attitude toward the message topic when presented via

the medium of print.

- (n) The null hypothesis was not rejected. The printed page did not produce significantly greater reductions in mean attitude scores toward the message source than did audio tape recordings. Indeed, audio tape recordings resulted in generally lower scores toward both topic and source than did print. The failure of the medium of print to produce greater changes in attitude may be due to a flaw in treatment methodology. The writer noticed during the treatment phase of the study that a number of subjects in groups exposed to inconsistencies via print did not read the stimulus messages in their entirety. Several subjects in each group were observed to be looking out windows or engaging in other irrelevant behavior shortly after the second stimulus message was distributed among the subjects. The first paragraph of all forms of the stimulus message was the same, and it is the writer's belief that some of the subjects simply assumed the messages to be identical and stopped reading after the first few sentences. While it is true that subjects in groups exposed via audio and video tape recordings could also "tune out" the messages, the medium of print allowed subjects more complete freedom of exposure. The writer considered stressing the importance of reading all messages completely more emphatically but decided that altering the instructions for the benefit of the subjects exposed via print might introduce undesirable demand characteristics. Future

researchers investigating the effects of exposure via the printed page should consider this problem when designing their research methodology.

- (o) The null hypothesis was partially rejected. Audio tape recordings did produce significantly ($p < .01$) lower attitude scores toward the message topic than did video recordings when causal inconsistencies were involved. The difference between the two media was not significant when either statistical or authoritative inconsistencies were involved. Attitude scores toward the message topic were also significantly ($p < .05$) lower for subjects exposed to causal inconsistencies via audio tape recordings than for subjects exposed to the same type of inconsistency via the printed page. Inconsistencies seemed to create greater changes in attitudes toward both topic and source when presented via audio tape than when presented in print or via video tape.
- (p) The null hypothesis was not rejected. Audio tape recordings did not produce significantly lower scores on attitude toward the message source than did video tape recordings.

Discussion

The results of the present study were mixed. Only one research hypothesis was clearly confirmed, although six additional hypotheses were confirmed in part. No form of inconsistency resulted in consistently significant changes in attitude toward the source or topic when scores were compared across the three media of presentation. This finding

supports the general conclusion drawn by other researchers dealing with the influence of evidence in persuasive messages, namely that quality of evidence seems to have little effect on the persuasiveness of a message or the credibility of its source. Although there was some evidence that statistical and causal inconsistencies are more readily noticed and result in greater damage to the source's credibility and the persuasiveness of a message than do authoritative inconsistencies, the support was not conclusive. It is worth noting, however, that in no treatment condition was there a significant change in attitude toward either source or topic due to the presence of authoritative inconsistencies. It should also be noted that although both statistical and causal inconsistencies resulted in lower attitude scores than did authoritative inconsistencies under certain conditions, the reverse was never true. This result suggests that while causal and statistical inconsistencies apparently do not reduce message persuasiveness or source credibility significantly, authoritative inconsistency is even less damaging. Scores on the "inconsistency" variable also support this generalization.

The results of the present study with respect to the variable "medium of presentation" also agree with previous studies. None of the media examined in this study were found to be consistently superior to any other across all three forms of inconsistency. There appeared to be a tendency for subjects to perceive inconsistencies more readily when they were presented via audio tape, especially causal inconsistencies, but support for a definitive statement was lacking. There were also indications that inconsistencies presented via video tape were least noticed and least damaging to source credibility and message persuasiveness.

The results of the present study do not support the generalization of the "congruity principle" to include underlying presentational factors. As in the study by Bettinghaus (8), the subjects in the present study did not consistently shift their attitudes toward topic and source as predicted by the "congruity principle." Assuming the scores on the Consistent-Inconsistent scale to be a valid index of the subjects' perception of inconsistencies, the majority of the subjects apparently failed to see the messages as being inconsistent. This, of course, would explain the failure of the "congruity principle" to predict attitude changes in the present study. It is obvious that a state of incongruity would not develop unless the inconsistencies were perceived. A closer examination of the data, however, revealed that attitudes toward source and topic did not shift in the predicted direction even among those subjects who apparently perceived inconsistencies in the messages. It was found that many of the groups reporting the lowest scores on the Consistent-Inconsistent scale were those also reporting the highest scores on attitude toward the topic and source. It would seem, therefore, that if subjects perceiving the inconsistencies actually experienced a state of incongruity they resolved the matter by selecting a behavior other than discrediting the source or topic of the stimulus message. One is reminded of the various alternative behaviors available to a person experiencing a state of incongruity listed by Steiner and Rogers (46). Why an alternative behavior was apparently selected in the present study remains unknown. It is possible, of course, that the Consistent-Inconsistent scale did not function as a true index of the subjects' perception of inconsistencies.

An additional result not directly related to the research hypotheses merits discussion. Two additional analyses of variance were performed in which the data were divided into two groups according to the sex of the subject. The purpose of this procedure was to determine if there were differences in the manner of response to treatments attributable to sex. The tables which follow provide a comparison of males and females for each of the four dependent variables.

Table 9

Analysis of Variance for
Dependent Variable
Character

(Males) N=239

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	398.83	1.10	.3525

(Females) N=145

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	250.53	.81	.6671

Table 10

Analysis of Variance for
Dependent Variable
Authoritativeness

(males) N=239

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	174.60	.93	.5334

(females) N=145

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	122.36	.84	.6402

Table 11
 Analysis of Variance for
 Dependent Variable
 Consistency

(Males) N=239

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	90.75	2.12	.0086

(Females) N=145

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Treatment	16	49.59	1.19	.2819

Table 12
 Analysis of Variance for
 Dependent Variable
 Topic

(Males) N=239

Source	df	SS	F	F Prob.
Treatment	16	523.41	1.49	.1064

(Females) N=145

Source	df	SS	F	F Prob.
Treatment	16	475.82	1.29	.2152

An examination of the analysis of variance tables indicates that males tended to respond more strongly to the treatments with respect to all four dependent variables than did females. This is especially noticeable for the dependent variable inconsistency where the probability of F for males was significant beyond the .01 level whereas the F probability for females was well above the level of significance. Assuming the inconsistency variable to be a reliable index of the subjects perception of inconsistency, it would appear that males were much more successful in catching inconsistencies than were females. It is also interesting to note that perception of inconsistencies by males did not result in significant differences among means for the three other dependent measures. This tends to support the conclusion that the various treatments did not have a significant influence on subject attitudes toward either topic or source. Failure of the males to lower their regard for the source or the topic significantly in spite of their perception of inconsistencies also provides support for rejecting the generalization of the "congruity principle" to include underlying presentational factors. This study also supports previous studies which have indicated that women are more easily persuaded than men. The findings of the present study suggest that this difference between males and females may be due to females being somewhat less critical regarding the content of the messages to which they are exposed.

Although several null hypotheses were rejected on the basis of significant differences between selected treatment groups, the writer does not believe that the importance of these differences should be exaggerated. In spite of the rigorous statistical procedures

employed in the present study, the large number of possible comparisons could result in the discovery of significant differences between groups which were not due to the experimental treatment.

Since no form of inconsistency or medium of presentation examined in this study produced consistent changes in attitude as measured by the dependent variables, there appears to be little justification for placing special emphasis on the few exceptional cases. The fact that there were few significant overall F -ratios suggests that a conservative approach should be taken toward the rejection of null hypotheses. Indeed, only the "inconsistency" variable resulted in a significant F when the scores of subjects in the control group were deleted from the analysis of variance. The failure of either evidence or media of presentation to produce consistently significant effects in previous experimental studies also encourages the writer to view the partial rejection of null hypotheses with suspicion. However, the tendency of subjects to react more strongly when inconsistencies were presented via audio tape, the failure of authoritative inconsistencies to effect attitude change in any treatment group, and the dramatic differences between the scores of males and females on the perception of inconsistency scale suggest areas for additional study.

An additional comment regarding the results of this study should be made. It was emphasized at the start of this discussion that all results were based on an analysis of the 384 subjects remaining after the writer had systematically rejected over one hundred test booklets. As a precautionary measure, an additional analysis was performed which included data from all 496 subjects participating in

the study. An examination of this analysis revealed only minor differences when compared to the original analysis based on the restricted sample. It was decided after a comparison of the two analyses that the restricted sample was probably the more reliable of the two and, therefore, the analysis based on the restricted sample was used for the purposes of discussion. Analysis of variance tables, correlation coefficients, and a table of group means based on the total sample may be found in Appendix G.

Chapter 4

CONCLUSIONS

The conclusions reached in the present study may be summarized as follows:

1. Effect of Inconsistencies on Attitude Toward Topic

Three types of inconsistency were found to have little effect on subjects' attitude toward the topic of the stimulus messages. Only causal inconsistencies presented via audio tape recordings resulted in a significant change in subjects' attitude toward the topic.

2. Effect of Inconsistencies on Attitude Toward Source

Three types of inconsistency were found to have little effect on subjects' attitude toward the source of the stimulus messages. Only statistical inconsistencies presented via video tape resulted in a significant change in subjects' scores with respect to both the character and authoritativeness of the source.

3. Comparison of Inconsistencies Among Themselves

The three types of inconsistency examined did not differ significantly in their effect on subjects' attitudes toward either topic or message source. Causal inconsistencies tended to be more damaging than statistical inconsistencies or authoritative inconsistencies, but the differences were slight.

4. Effect of Media on Attitude Toward Topic

The media of presentation utilized in this study had little effect on the subjects' attitude toward the message topic. Only the medium of audio tape recordings resulted in significant changes in attitude toward the topic and then only when causal inconsistencies were being communicated.

5. Effect of Media on Attitude Toward Source

The three media of presentation had little effect on the subjects' attitude toward the source of the messages. Only video tape recordings were found to produce significant changes with respect to the character and authoritativeness of the source and then only when statistical inconsistencies were being communicated.

6. Comparison of Media Among Themselves

No medium was found to be more damaging to a communicator transmitting inconsistencies than any other. The medium of audio tape in conjunction with causal inconsistencies resulted in significant changes in attitude toward the message topic but not toward the message source. The data suggest that inconsistencies may be more noticeable when presented via audio tape but the data are not conclusive.

7. Applicability of the "Congruity Theory"

The "congruity theory" failed to predict attitude scores toward message source and message topic accurately in the present study. No result was found which supported the generalization of the "congruity theory" to include underlying presentational factors.

8. Comparison of Male and Female Responses to Treatments

Males were found to perceive inconsistencies in stimulus messages

somewhat better than did females. Males also tended to rate the source and topic less favorably than did females. Males, however, did not significantly lower their regard for the source or support of the topic as a result of perceiving inconsistencies in the messages.

9. Conclusions with Respect to Previous Research

The present study tended to confirm the findings of previous experimental studies involving the variables of evidence and media of presentation. Like most other studies, manipulation of evidence and media of presentation had mixed and generally insignificant effect on either the persuasiveness of the stimulus message or the credibility of the source. This study joins with those by Bettinghaus (8) and Bowers (10) in casting doubt on the utility of the "congruity principle" when predictions are based on a consideration of underlying presentational factors. This study also found that male subjects were more critical of the messages to which they were exposed than were female subjects. This finding supports other research which has demonstrated women to be more easily persuaded than men.

10. Conclusions with Respect to Traditional Theory

The results of this study did not confirm the traditional view of evidence as an important factor in the process of persuasion. Contrary to traditional theory, inconsistencies did not reduce receivers' regard for the source of the message nor support of the message topic. Perhaps most significantly, subjects did not alter their attitudes toward message topic and source even when the inconsistencies were apparent.

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APPENDIXES

APPENDIX A**Instructors' Response Form**

NAME _____

_____ I can supply _____ section(s) of Speech 1 for use in the study.

_____ I would be willing to hold a class meeting in Himes Hall.

_____ My schedule will not allow the students in my sections to serve as subjects in the study.

_____ I need more information about the study before I can make a decision.

I would appreciate your keeping all matters relating to this study confidential, regardless of your degree of participation.

THANKS TO YOU ALL!

APPENDIX B
Test Booklet

VERBAL COMPREHENSION RESEARCH PROJECT
Department of Speech

Dear Student:

One of the major functions of any large university is research. Since finding subjects is often one of the most difficult problems encountered by researchers, students enrolled in basic college courses are frequently asked to participate in research projects. You should understand that no student is required by the University to participate in any project and that refusal to participate in this, or any other, project will not be "used against" you in any way. The vast majority of students gladly participate because they support the University's research efforts but some individuals have personal reasons for not participating and these reasons are respected.

We wish to emphasize that your participation in this project will not have any effect on your academic career. We do not desire to know your name, student number, or anything else which could be used to identify you individually. However, to properly classify our data we do need to know your sex, your present class standing, and your academic major. Please provide this information below since it is vital to the project.

SEX: M F

CLASS STANDING: Fr. Soph. Jr. Sr. 1st. Sem.
2nd. Sem.

ACADEMIC MAJOR: _____
(If known)

Thank you for your cooperation!

PLEASE DO NOT TURN PAGE UNTIL INSTRUCTED!!

Like intelligence, verbal comprehension ability is a very complex psychological process. There is no way to "study" or prepare for a test of this type any more than one can study for an intelligence test or a test to measure vocational aptitude. Do not be concerned if the scales seem "strange" or illogical to you. The scales tap dimensions of understanding other than the cognitive so any attempt to "figure them out" will probably result in frustration and an overall score which does not reflect your true ability.

Please examine the sample question below. You will notice that it begins with a topic: "High Engine Temperatures." Beneath the topic there are five scales, each of which will represent your feelings about high engine temperatures. The blanks nearest the words on each end of the scale represent extreme feelings. That is, the blank nearest the word good means very good. The blank next closest means moderately good, the next means slightly good, and so on. The middle blank on each scale means "neutral." For the "good-bad" scale, the middle blank means neither good nor bad; just neutral, not good, not bad. This same reasoning applies to all scales.

High Engine Temperatures

Good X : _____ : _____ : _____ : _____ : _____ : _____ Bad
 Undesirable _____ : _____ : _____ : _____ : _____ : X : _____ Desirable
 Positive _____ : _____ : X : _____ : _____ : _____ : _____ Negative
 Harmful _____ : _____ : _____ : _____ : _____ : _____ : X Helpful
 Accept _____ : X : _____ : _____ : _____ : _____ : _____ Reject

Note the X in the blanks of the scales in the sample question. The X on each scale represents the judgement made concerning the concept "High Engine Temperatures" with respect to that particular scale.

Here is what you are asked to do for each of the topics listed on the following six pages:

1. Make an X in the blank which most closely reflects your initial feeling toward the topic with respect to each scale.
2. Be careful to place the X's in the middle of the blanks, not on the colons between blanks.
3. Be careful that you mark every scale for every question. Do not leave any scale unmarked as this will invalidate all your responses.

4. Never put more than one X on any single scale.
5. Do not look back over your responses when you complete a question. Either go on to the next question or turn in your paper if you have completed all questions.

U. S. Environmental Protection Agency

Admirable _____ Contemptible _____
Dishonest _____ Honest _____
Dependable _____ Undependable _____
Untrustworthy _____ Trustworthy _____
Valuable _____ Worthless _____
Inexperienced _____ Experienced _____
Expert _____ Ignorant _____
Incompetent _____ Competent _____
Consistent _____ Inconsistent _____

Use of Unleaded Gasoline

Good _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Bad
Untimely _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Timely
Willing _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Unwilling
Impure _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Pure
Beautiful _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Ugly
Dead _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Alive
Important _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Unimportant
Soft _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ Hard

Ford Motor Company

Admirable _____: _____: _____: _____: _____: _____: _____: _____ Contemptible
 Dishonest _____: _____: _____: _____: _____: _____: _____: _____ Honest
 Dependable _____: _____: _____: _____: _____: _____: _____: _____ Undependable
 Untrustworthy _____: _____: _____: _____: _____: _____: _____: _____ Trustworthy
 Valuable _____: _____: _____: _____: _____: _____: _____: _____ Worthless
 Inexperienced _____: _____: _____: _____: _____: _____: _____: _____ Experienced
 Expert _____: _____: _____: _____: _____: _____: _____: _____ Ignorant
 Incompetent _____: _____: _____: _____: _____: _____: _____: _____ Competent
 Consistent _____: _____: _____: _____: _____: _____: _____: _____ Inconsistent

High Compression Ratios

Good _____ Bad
 Untimely _____ Timely
 Willing _____ Unwilling
 Impure _____ Pure
 Beautiful _____ Ugly
 Dead _____ Alive
 Important _____ Unimportant
 Soft _____ Hard

Use of Catalytic Converters

Good _____ Bad
Untimely _____ Timely
Willing _____ Unwilling
Impure _____ Pure
Beautiful _____ Ugly
Dead _____ Alive
Important _____ Unimportant
Soft _____ Hard

APPENDIX C

Base Form of
Stimulus Message

(Form 1)

There's a lot of talk these days about air pollution and how unleaded gasolines can help. You've probably heard a good bit about it yourself. But it's likely that much of what you've heard isn't true. We at the U. S. Environmental Protection Agency want you to know the facts.

Let's start with the environment issue first. The Surgeon General of the United States, Dr. Ralph Terry, has estimated that air pollution in our major cities could be reduced 35% overnight just by everybody changing to unleaded gasoline. The use of unleaded gasolines would also pave the way for catalytic converters to be installed on all new cars. The catalytic converter alone can cut the emission of nitrous oxide by 80% but, unfortunately, the lead compounds used in most gasolines are not compatible with the converter's catalytic agent. Frederick Williams, chief engineer for the Ford Motor Company, has testified before congress that the continued use of leaded gasoline by most motorists is the only factor preventing Ford from making catalytic converters standard equipment on all models in 1974. General Motors perfected the catalytic converter for G. M. cars over five years ago but continued use of leaded gasoline has prevented its general use. Unleaded gasoline also provides some indirect benefits. The low compression ratios used with unleaded fuels result in high operating temperatures which eliminate most pollutants before they have a chance to accumulate in the engine and be emitted into the air.

Now, if unleaded gasolines can do so much to reduce air pollution, why do most people continue to use leaded fuels? A recent poll conducted by the American Society of Automotive Engineers revealed that 78% of the people interviewed used leaded fuels because unleaded fuels cost two or three cents a gallon more than the leaded grades. This is really false economy because the ultimate costs in pollution resulting from the use of leaded fuels are far greater than the few pennies difference in original price. You should also know that James Ware, president of the Gulf Oil Corporation, has predicted that the cost of producing unleaded fuels could be reduced by 20% if consumer demand could be increased only 5%. So, there really isn't much excuse for refusing to use unleaded gasoline on economic grounds.

But perhaps you've heard that unleaded gasoline isn't good for your car. While it is true that some older models may not operate properly on unleaded fuels, most models are designed specifically for lead-free gasolines. They actually perform better with unleaded gas than with gasolines containing lead. In fact, the low compression ratios used with unleaded fuels take much of the strain off vital parts resulting in a longer engine life and fewer repair bills. There is also the advantage of higher operating temperatures which keep sludge from forming in the crankcase. Less sludge means more miles between oil changes and a reduction in operating costs for the driver. Lawrence Kraselsky, head of Research and Development for the Quaker State Petroleum Company, has estimated that the use of lead-free fuels, coupled with improvements in petroleum additives, will make the annual oil change a reality within two years. And, of course, this means yet another reduction in operating costs for the car owner.

There are other advantages we could mention, but we think we've made our point. Regardless of what you may have heard to the contrary,

unleaded gasolines can do a great deal to improve our worsening pollution problem without wrecking your budget or your car. Why not do your part? Next time you need gas, why not make it lead-free?

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APPENDIX D

Form 2 of
Stimulus Message
(Statistical Inconsistencies)

There's a lot of talk these days about air pollution and how unleaded gasolines can help. You've probably heard a good bit about it yourself. But it's likely that much of what you've heard isn't true. We at the U. S. Environmental Protection Agency want you to know the facts.

Let's start with the environment issue first. The Surgeon General of the United States, Dr. Ralph Terry, has estimated that air pollution in our major cities could be reduced 25% overnight just by everybody changing to unleaded gasoline. The use of unleaded gasolines would also pave the way for catalytic converters to be installed on all new cars. The catalytic converter alone can cut the emission of nitrous oxide by 56% but, unfortunately, the lead compounds used in most fuels are not compatible with the converter's catalytic agent. Frederick Williams, chief engineer for the Ford Motor Company, has testified before congress that the continued use of leaded gasoline by most motorists is the only factor preventing Ford from making catalytic converters standard equipment on all models in 1974. General Motors perfected the catalytic converter for GM cars over five years ago but continued use of leaded gasoline has prevented its general use. Unleaded gasoline also provides some indirect benefits. The low compression ratios used with unleaded fuels result in high operating temperatures which eliminate most pollutants before they have a chance to accumulate in the engine and be emitted into the air.

Now, if unleaded gasolines can do so much to reduce air pollution, why do most people continue to use leaded fuels? A recent poll conducted by the American Society of Automotive Engineers revealed that 55% of the people interviewed used leaded fuels because unleaded fuels cost two or three cents a gallon more than the leaded grades. This is really false economy because the ultimate costs in pollution resulting from the use of leaded fuels are far greater than the few pennies difference in original price. You should also know that James Ware, president of the Gulf Oil Corporation, has predicted that the cost of producing unleaded fuels could be reduced by 26% if consumer demand could be increased only 3½%. So, there really isn't much excuse for refusing to use unleaded gasoline on economic grounds.

But perhaps you've heard that unleaded gasoline isn't good for your car. While it is true that some older models may not operate properly on unleaded fuels, most models are designed specifically for lead-free gasolines. They actually perform better with unleaded gas than with gasolines containing lead. In fact, the low compression ratios used with unleaded fuels take much of the strain off vital parts resulting in a longer engine life and fewer repair bills. There is also the advantage of higher operating temperatures which keep sludge from forming in the crankcase. Less sludge means more miles between oil changes and a reduction in operating costs for the driver. Lawrence Kraselsky, head of Research and Development for the Quaker State Petroleum Company, has estimated that the use of lead-free fuels, coupled with improvements in petroleum additives, will make the annual oil change a reality within two years. And, of course, this means yet another reduction in operating costs for the car owner.

There are other advantages we could mention, but we think we've made our point. Regardless of what you may have heard to the con-

trary, unleaded gasolines can do a great deal to improve our worsening pollution problem without wrecking your budget or your car. Why not do your part? Next time you need gas, why not make it lead-free?

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APPENDIX E

**Form 3 of
Stimulus Message
(Authoritative Inconsistencies)**

There's a lot of talk these days about air pollution and how unleaded gasolines can help. You've probably heard a good bit about it yourself. But it's likely that much of what you've heard isn't true. We at the U. S. Environmental Protection Agency want you to know the facts.

Let's start with the environment issue first. The president of the National Respiratory Disease Foundation, Dr. Ralph Terry, has estimated that air pollution in our major cities could be reduced 35% overnight just by everybody changing to unleaded gasoline. The use of unleaded gasolines would also pave the way for catalytic converters to be installed on all new cars. The catalytic converter alone can cut the emission of nitrous oxide by 80% but, unfortunately, the lead compounds used in most gasolines are not compatible with the converter's catalytic agent. Frederick Williams, chief engineer for General Motors, has testified before congress that the continued use of leaded gasoline by most motorists is the only factor preventing GM from making catalytic converters standard equipment on all models in 1974. Ford Motor Company perfected the catalytic converter over five years ago but continued use of leaded gasoline has prevented its general use. Unleaded gasoline also provides some indirect benefits. The low compression ratios used with unleaded fuels result in high operating temperatures which eliminate most pollutants before they have a chance to accumulate in the engine and be emitted into the air.

Now, if unleaded gasolines can do so much to reduce air pollution, why do most people continue to use leaded fuels? A recent poll conducted by the American Society of Automotive Engineers revealed that 78% of the people interviewed used leaded fuels because unleaded fuels cost two or three cents a gallon more than the leaded grades. This is really false economy because the ultimate costs in pollution resulting from the use of leaded fuels are far greater than the few pennies difference in original price. You should also know that Lawrence Kraselsky, president of the Gulf Oil Corporation, has predicted that the cost of producing unleaded fuels could be reduced by 20% if consumer demand could be increased only 5%. So, there really isn't much excuse for refusing to use unleaded gasoline on economic grounds.

But perhaps you've heard that unleaded gasoline isn't good for your car. While it is true that some older models may not operate properly on unleaded fuels, most models are designed specifically for lead-free gasolines. They actually perform better with unleaded gas than with gasolines containing lead. In fact, the low compression ratios used with unleaded fuels take much of the strain off vital parts resulting in a longer engine life and fewer repair bills. There is also the advantage of higher operating temperatures which keep sludge from forming in the crankcase. Less sludge means more miles between oil changes and a reduction in operating costs for the driver. James Ware, head of Research and Development for the Quaker State Petroleum Company, has estimated that the use of lead-free fuels, coupled with improvements in petroleum additives, will make the annual oil change a reality within two years. And, of course, this means yet another reduction in operating costs for the car owner.

There are other advantages we could mention, but we think we've made our point. Regardless of what you may have heard to the contrary,

unleaded gasolines can do a great deal to improve our worsening pollution problem without wrecking your budget or your car. Why not do your part? Next time you need gas, why not make it lead-free?

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APPENDIX F

Form 4 of
Stimulus Message
(Causal Inconsistencies)

There's a lot of talk these days about air pollution and how unleaded gasolines can help. You've probably heard a good bit about it yourself. But it's likely that much of what you've heard isn't true. We at the U. S. Environmental Protection Agency want you to know the facts.

Let's start with the environment issue first. The Surgeon General of the United States, Dr. Ralph Terry, has estimated that air pollution in our major cities could be reduced 35% overnight just by everybody changing to unleaded gasoline. The use of unleaded gasolines would also pave the way for catalytic converters to be installed on all new cars. The catalytic converter alone can cut the emission of nitrous oxide by 80% but, unfortunately, the lead compounds used in most gasolines are not compatible with the converter's catalytic agent. Frederick Williams, chief engineer for the Ford Motor Company, has testified before congress that the continued use of leaded gasoline by most motorists is the only factor preventing Ford from making catalytic converters standard equipment on all models in 1974. General Motors perfected the catalytic converter for GM cars over five years ago but continued use of leaded gasoline has prevented its general use. Unleaded gasoline also provides some indirect benefits. The compression ratios used with unleaded fuels result in low operating temperatures which eliminate most pollutants before they have a chance to accumulate in the engine and be emitted into the air.

Now, if unleaded gasolines can do so much to reduce air pollution, why do most people continue to use leaded fuels? A recent poll conducted by the American Society of Automotive Engineers revealed that 78% of the people interviewed used leaded fuels because they had heard that unleaded gasoline might harm their cars. While it is true that some newer models may not operate properly on unleaded fuels, most models are designed specifically for unleaded gasoline. They actually perform better with unleaded gas than with gasolines containing lead. In fact, the high compression ratios used with unleaded fuels take much of the strain off vital parts resulting in a longer engine life and fewer repair bills. There is also the advantage of lower engine temperatures which keep sludge from forming in the crankcase. Less sludge means more miles between oil changes and a reduction in operating costs for the driver. Lawrence Kraselsky, head of Research and Development for Quaker State Petroleum Company, has estimated that the use of lead-free fuels, coupled with improvements in petroleum additives, will make the annual oil change a reality within two years. And, of course, this means yet another reduction in operating costs for the car owner.

Of course there are some people who don't use unleaded gasoline because the leaded grades are two or three cents a gallon less expensive. This is really false economy because the ultimate costs in pollution resulting from the use of leaded fuels are far greater than the few pennies difference in original price. You should also know that James Ware, president of the Gulf Oil Corporation, has predicted that the cost of producing unleaded fuels could be reduced 20% if consumer demand could be increased only 5%. So, there really isn't much excuse for refusing to use unleaded gasoline on economic grounds.

There are other advantages we could mention, but we think we've made our point. Regardless of what you may have heard to the contrary,

unleaded gasolines can do a great deal to improve our worsening pollution problem without wrecking your budget or your car. Why not do your part? Next time you need gas, why not make it lead-free?

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APPENDIX G.1

Analysis of Variance Tables
for Dependent Variables

(Total Sample)

Table 13
Analysis of Variance for
Dependent Variable
Character

N=496

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	50.86	.51	.7346
Inconsistency	4	119.50	1.19	.3144
Media/Incon.	8	200.96	1.00	.5639

Table 14
Analysis of Variance for
Dependent Variable
Authoritativeness

N=496

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	57.48	1.16	.3272
Inconsistency	4	34.76	.70	.5938
Media/Incon.	8	53.08	.54	.8305

Table 15
Analysis of Variance for
Dependent Variable
Inconsistency

N=496

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	14.60	1.30	.2669
Inconsistency	4	21.53	1.92	.1044
Media/Incon.	8	18.36	.82	.5866

Table 16
Analysis of Variance for
Dependent Variable
Topic

N=496

Source	df	SS	<u>F</u>	<u>F</u> Prob.
Media	4	143.15	1.60	.1725
Inconsistency	4	251.53	2.81	.0249
Media/Incon.	8	289.18	1.61	.1178

APPENDIX G.2
Table of Correlations
and Probabilities
(Total Sample)

Table 17
Correlations and Associated
Probabilities

N=496

Variables	Correlation	Probability
Character/Authoritativeness	.66	.0001
Character/Inconsistency	.56	.0001
Character/Topic	.23	.0001
Authoritativeness/Inconsistency	.53	.0001
Authoritativeness/Topic	.25	.0001
Inconsistency/Topic	.21	.0001

APPENDIX G.3
Tables of Treatment
Group Means
(Total Sample)

Table 18
Group Means for Inconsistency
Treatments via Video
Tape Recordings

(Total Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
28	1	29.5357	17.4286	5.4643	34.5357
29	2	30.6207	18.0690	5.2414	35.6552
30	3	29.3000	16.7333	5.1667	33.0333
29	4	28.0345	16.5862	4.9310	34.6897
26	5	29.5000	16.9615	5.1538	35.6923

*TRT=Treatment

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

Table 19
Group Means for Inconsistency
Treatments via
Printed Page

(Total Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
31	1	28.6129	16.6452	5.1613	35.6774
31	2	28.7097	16.8065	5.3871	34.5806
37	3	30.0000	17.0270	5.3514	34.4595
34	4	26.9118	16.1176	4.0588	34.8824
30	5	27.4667	16.1333	4.6333	34.3667

*TRT= Treatment.

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

Table 20

Group Means for Inconsistency
Treatment via Audio
Tape Recordings

(Total Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
21	1	29.9524	17.4762	5.4762	34.8095
33	2	28.3636	16.6061	4.8788	34.5455
28	3	27.6429	15.8929	4.8214	34.2857
32	4	27.9688	16.6250	4.3438	35.4375
34	5	27.0294	16.1765	4.3824	31.8235

*TRT= Treatment

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

APPENDIX H
Tables of Treatment
Group Means
(Restricted Sample)

Table 21
Group Means for Inconsistency
Treatments via
Printed Page

(Restricted Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
21	1	29.0476	17.3333	5.4762	36.7619
23	2	28.8696	16.6087	5.5217	34.8696
28	3	30.1786	17.5000	5.2500	35.2143
28	4	27.2143	16.0714	3.7857	34.8214
25	5	27.9600	16.7200	4.8800	34.7600

*TRT= Treatment

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

Table 22

Group Means for Inconsistency
Treatments via Audio
Tape Recordings

(Restricted Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
18	1	30.3333	17.6111	5.5000	34.9444
27	2	28.6667	16.6296	5.0741	34.2963
17	3	28.8235	15.6471	4.5882	33.6471
26	4	28.0000	17.1538	4.1538	35.3846
21	5	27.0952	15.8095	4.1429	31.3810

*TRT= Treatment

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

Table 23

Group Means for Inconsistency
Treatments via Video
Tape Recordings

(Restricted Sample)

n	TRT*	Character	Authoritativeness	Inconsistency	Topic
25	1	29.8000	17.5600	5.4800	34.1600
20	2	31.0500	18.2500	5.2000	35.2000
23	3	29.0435	16.4783	5.1304	33.0435
24	4	27.2917	16.2917	4.6667	34.2083
25	5	29.2800	16.8000	5.0800	35.6800

*TRT= Treatment

1= single exposure to Form 1

2= double exposure to Form 1

3= exposure to Form 1 and authoritative inconsistency

4= exposure to Form 1 and statistical inconsistency

5= exposure to Form 1 and causal inconsistency

VITA

Arthur Thomas Spann was born November 20, 1944, in Dothan, Alabama, where he received his elementary and secondary education. He attended the Wallace Vocational-Technical Trade School for one year following graduation from Dothan High School in 1963. He entered the University of Alabama in 1964 where he received the B. A. degree in 1968 and the M. A. degree in 1969. He served as an instructor in speech at the University of Alabama in Birmingham for two years before beginning graduate study at Louisiana State University in 1971.

EXAMINATION AND THESIS REPORT

Candidate: Arthur Thomas Spann

Major Field: Speech

Title of Thesis: Effect of Textual Inconsistency and Media of Presentation on
Persuasiveness and Source Credibility

Approved:

J. Donald Ragsdale
Major Professor and Chairman

James L. Traynham
Dean of the Graduate School

EXAMINING COMMITTEE:

John H. Berry
Harold W. Ryan

Cory H. Howard

Clinton W. Bradford

Date of Examination:

August 3, 1973